ABSTRACT OF THE DISCLOSURE

A hydrogen-purification membrane comprises a Pd alloy film joined to one surface of a porous support substrate. Each pore in the porous support substrate is such that between the thickness T of the porous support substrate, the opening diameter D1 of the pore on the side joined to the Pd alloy film and the opening diameter D2 of the pore on the opposite side, there are relations represented by $1.0 \leqq D1/T \leqq 5.0$ and $1.0 \leqq D2/T \leqq 5.0$, and between the opening diameter D1 of the pore on the side joined to the Pd alloy film, the opening diameter D2 of the pore on the opposite side and the opening diameter D3 of the narrowest portion of the pore there are relations represented by $D3/D1 < 0.8$, $D3/D2 < 0.9$ and $D3 < 250$ μm. Furthermore, the total opening area of the pores on the side joined to the Pd alloy film accounts for 20 to 80% of the area of the porous support substrate.